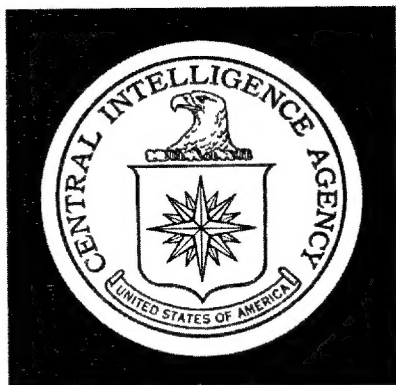


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DIRECTORATE OF
INTELLIGENCE

Sensitive Report

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Intelligence Memorandum

*An Assessment of the Rolling Thunder Program
Through December 1967*

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MARCH 1968

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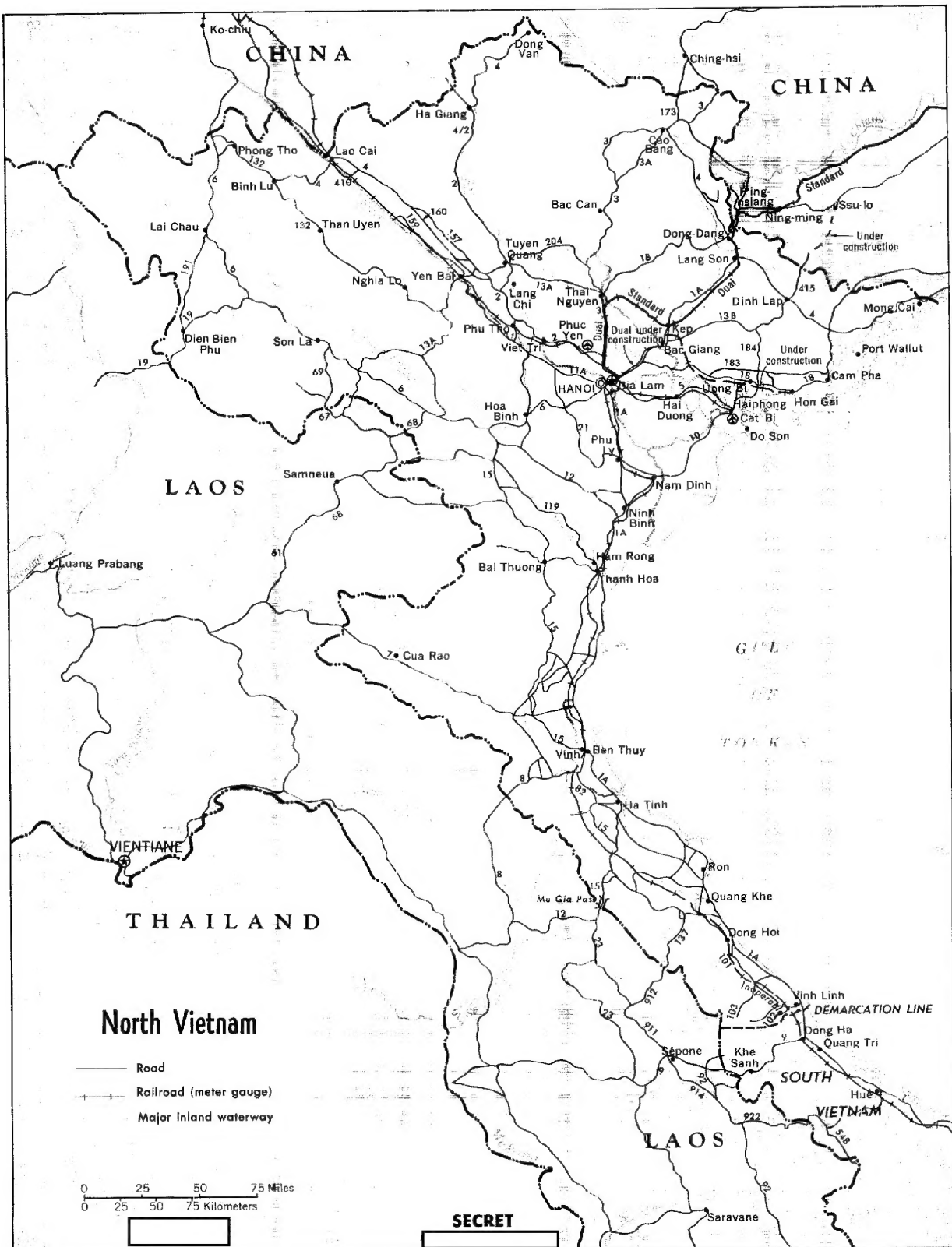
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North Vietnam

- Road
- +— Railroad (meter gauge)
- Major inland waterway

0 25 50 75 Miles
0 25 50 75 Kilometers

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CENTRAL INTELLIGENCE AGENCY
Directorate of Intelligence
March 1968

INTELLIGENCE MEMORANDUM

An Assessment of the Rolling Thunder Program
Through December 1967

Summary

During 1967 a sustained and intensive interdiction campaign was carried out against almost every significant military and economic target in North Vietnam. The activity level was well above that of any previous year of the Rolling Thunder program. The physical damage inflicted on North Vietnam during 1967 exceeded that achieved during 1965 and 1966 combined. Most of modern industry was effectively neutralized; the disruption of agriculture, trade, and transportation reached new heights; and the lot of the average citizen became more trying. None of these results, however, has produced any significant weakening of North Vietnam's military capabilities, the apparent resolution with which the regime carries on the war, or the popular support of the regime.

The cumulative pounding by the Rolling Thunder program for almost three years has caused formidable physical damage to North Vietnam. The cost of damage to military and economic targets through 1967 is valued at nearly \$420 million. Economic targets accounted for nearly \$290 million of the damage (almost 70 percent of total damage), and military targets accounted for the remaining \$130 million (see Figures 1 and 2). The cost of all damage inflicted during 1967 was more than one-half of the total for the three years and was more than double that in 1966.

Note: This memorandum was produced solely by CIA. It was prepared by the Office of Economic Research and was coordinated with the Office of Current Intelligence and the Director's Special Assistant for Vietnamese Affairs.

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The estimated number of casualties resulting from the Rolling Thunder program continues to be remarkably low -- less than 76,000 after almost three years of bombing. Indeed, preliminary estimates indicate that the casualties during 1967 were at a much lower rate than in previous years, despite the marked increase in sorties against targets in heavily populated areas.

Air attacks in 1967 increased significantly in terms of number of sorties flown and ordnance dropped. The 191,000 sorties flown over North Vietnam in 1967 were almost as many as the total flown during the two preceding years of the air war, and ordnance dropped during 1967 was half again as much as was dropped in 1965 and 1966 combined (see Figures 3 and 4).

Many key industrial and transport targets in the Northeast were struck for the first time in 1967. Normal traffic movements in the Hanoi area are hindered by damage to the Doumer Bridge over the Red River and in the Haiphong area by the damaged railroad/highway bridge, although large numbers of bypasses have insured a continuous movement of traffic. By the end of 1967, electric power generating capacity was about 35 percent of the pre-bombing national capacity compared with a low of 20 percent during June through October 1967. The major manufacturing plants, including the Thai Nguyen Iron and Steel Complex and the Haiphong Cement Plant, were inoperable at the end of the year, but a few manufacturing facilities had been put back into partial operation as a result of the increase in electric power.

Despite serious disruptions to the transport system in 1967, the bombing has not put a relevant ceiling on the Communist force structure or levels of combat in the South. The flow of materials to support the war in South Vietnam has been stepped up and by the end of the year reached record levels. During the bombing campaign, the truck and railroad rolling stock inventories have increased despite heavy losses. Repairs to highways, railroads, and bridges are being made in record time. The North Vietnamese still have sufficient resources to undertake the construction and repair of railroads and highways that are not directly related to the present movement of supplies to South

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Vietnam. These programs have required the diversion of large amounts of North Vietnamese manpower and assistance from Communist China. The overall result, however, is that the transport system presently has more capacity to move supplies than at any time since the bombing began.

The air defense system received most of the damage to military targets in 1967, with heavy losses of fighter aircraft accounting for almost one-half of all costs of military damage. Large amounts of military aid were supplied by Communist China and the USSR, and by the end of 1967 the air defense system was increasingly effective. Attacks on military target systems other than air defense probably have had little impact on the overall effectiveness of North Vietnam's military forces.

Despite the damage inflicted on North Vietnam's air defense system, the air war has taken an increasingly heavy toll of US aircraft. In 1967, 366 planes were lost over North Vietnam, an increase of 16 percent from 1966. Moreover, the ratio of US air losses to the number of sorties, which had declined each year since 1965, increased during the second, third, and fourth quarters of 1967. One reason was the heavy losses incurred in the large number of attacks against heavily defended industrial and military targets in the Hanoi and Haiphong areas. Loss rates in attacks against these targets are as much as nine times the overall average rates. Another reason was the increasingly effective and aggressive North Vietnamese air defense, as reflected by the continued increase in the loss rate during the fourth quarter of 1967, despite a slackening of attacks on targets in Hanoi and Haiphong.

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